

REMARKS

Claims 1-6 have all been rejected on various grounds in the Office Action mailed January 12, 2009. Claim 2 has been canceled by this Amendment and any rejections of claim 2 are therefore rendered moot. Because claim 2 has been canceled, claims 3 and 5 have been amended to depend directly on independent claim 1.

Claims 1 and 3 stand rejected under as obvious over US Patent Application Publication No. 2002/0142195 to Ehara (hereinafter “Ehara”) in view of US Patent Application Publication No, 2002/0180582 to Masumoto et al (hereinafter “Masumoto”) and US 4,314,145 to Horsma et al. (hereinafter “Horsma”). Claims 4 to 6 are rejected as obvious over Ebara in view of Masumoto and Horsma and further in view of US Patent Application Publication 2003/0124420 to Fong et al. (hereinafter “Fong”).

The Applicant respectfully disagrees with the Examiner that the cited prior art renders claims 1-6 unpatentable. Claims 3-6 all depend, directly or indirectly, from independent claim 1 and are allowable for the same reasons claim 1 is allowable. None of Masumoto, Ehara, and Horsma (or any other cited prior art) discloses or indicates the features of “a heat protecting element being surrounded by a heat insulating member” and “a resin mold section surrounding and coating the heat insulating member” as recited in independent claim 1. Failing to disclose those claimed features, claim 1 cannot be rendered obvious by the cited combination.

More specifically, Masumoto discloses a configuration in which a heat insulation sheet (16) is placed upon the surface of a PTC opposite to a battery cell. In this configuration, a heat insulating member is not stuck on the other surface of the PTC element (10) facing the battery cell. FIG. 3B of Masumoto reveals that no resin mold is filled between the bottom

surface of a PTC element (110) and a battery cell. In this configuration, the space there between is a void space.

Ehara, on the other hand, discloses that a void exists on an upper surface of a PTC (not a mold resin). That is, Ehara, does not disclose or suggest disposing a heat insulating member between a PTC element and a battery cell.

Similarly, Horsma does not disclose or indicate the resin mold section of the present invention. Rather, Horsma merely discloses a device including a PTC element having an overheat-protection element coated by an insulating coating.

Thus, taken together, Masumoto and Ehara merely disclose a configuration in which a resin mold section is provided onto one side of a battery cell but a void is formed on the other side of the battery cell. Horsma does nothing to fill the gap in the teaching of those references as Horsma does not disclose or indicate a resin mold section.

Accordingly, Masumoto, Ehara, and Horsma, alone or in combination, cannot be said to disclose “a heat protecting element being surrounded by a heat insulating member” and “a resin mold section surrounding and coating the heat insulating member” as recited in claim 1. Those claimed features result in a better designed battery. For example, the limitation of “the resin mold section surrounding and coating the heat insulating member” is advantageous from a view point of long-term deterioration since this configuration can prevent one side of a PTC element upon being applied heat from thermally expanding or thermally contracting, while the devices in Masumoto Ehara, and Horsma will be more vulnerable to uneven expansion from heat.

For the foregoing reasons, Applicant submits that claim 1 is allowable over the cited prior art. For the same reasons, dependent claims 3 to 6 should also be allowed.

The Examiner is urged to telephone Applicant's undersigned counsel at the number noted below if it will advance the prosecution of this application, or with any suggestion to resolve any condition that would impede allowance. In the event that any extension of time is required, Applicant petitions for that extension of time required to make this response timely. Kindly charge any additional fee, or credit any surplus, to Deposit Account No. 50-0675, Order No. 848075-0055.

Respectfully submitted,



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